

Please amend the specification as follows:

Page 4, the paragraph at line 9:

The first one of the present invention is a photo-catalyst containing titanium fluoride nitride comprising,  $\text{Ti(IV)O}_a\text{Nb}_b\text{F}_c$  or a compound represented by  $\text{MeTi(IV)O}_a\text{Nb}_b\text{F}_c$  prepared by doping at least one metal Me selected from the group consisting of ~~alkalis or alkali alkali or alkaline earth~~ metals on  $\text{Ti(IV)O}_a\text{Nb}_b\text{F}_c$  (wherein, b is 0.1 to 1, c is 0.1 to 1 and a is a value to maintain Ti(IV) and is decided in relation to ~~with~~ b and c.). Desirably, the present invention is the photo-catalyst containing titanium fluoride nitride, wherein  $\text{Ti(IV)O}_a\text{Nb}_b\text{F}_c$  possesses anatase structure and  $\text{MeTi(IV)O}_a\text{Nb}_b\text{F}_c$  possesses perovskite to anatase structure. Further desirably the present invention is the photo-catalyst containing titanium fluoride nitride to which at least one promoter selected from the group consisting of Pt, Ni and Pd is loaded.

Page 4, the paragraph at line 20:

The second one of the present invention is a photo-catalyst for water splitting containing titanium fluoride nitride comprising  $\text{Ti(IV)O}_a\text{Nb}_b\text{F}_c$  or a compound represented by  $\text{MeTi(IV)O}_a\text{Nb}_b\text{F}_c$  prepared by doping at least one metal Me selected from the group consisting of ~~alkalis or alkali alkali or alkaline earth~~ metals on  $\text{Ti(IV)O}_a\text{Nb}_b\text{F}_c$ . (wherein, b is 0.1 to 1, c is 0.1 to 1 and a is a value to maintain Ti(IV) and is decided in relation with b and c. ). Desirably, the second one of the present

invention is a photo-catalyst for water splitting containing titanium fluoride nitride wherein  $\text{Ti(IV)O}_a\text{NbF}_c$  possesses anatase structure and  $\text{MeTi(IV)O}_a\text{NbF}_c$  possesses perovskite to anatase structure. Further desirably the second one of the present invention is a photo-catalyst for water splitting containing titanium fluoride nitride to which at least one promoter selected from the group consisting of Pt, Ni and Pd is loaded.

Page 4, the paragraph at line 32:

The third one of the present invention is a method for preparation of a photo-catalyst represented by  $\text{Ti(IV)O}_a\text{NbF}_c$  (~~wherein a, b and c are same as to first one of the present invention~~) by baking titanium di-ammonium fluoride halide containing at least F represented by  $(\text{HH}_4)_2\text{TiF}_d\text{X}_{6-d}$  (~~wherein, d is integer of 1-6~~) and ammonium halide by the ratio of equimolar or by the ratio of slightly excess of ammonium halide at the maximum temperature from  $200^\circ\text{C}$  to  $500^\circ\text{C}$ , desirably from  $300^\circ\text{C}$  to  $450^\circ\text{C}$  so as to form a starting material, then said starting material is nitrogenated by thermal synthesis in ammonia atmosphere containing from 0.02% to 10.00% of oxygen, air or water to ammonia by reduced mass to oxygen atom at the maximum temperature from  $350^\circ\text{C}$  to  $700^\circ\text{C}$ , desirably from  $400^\circ\text{C}$  to  $600^\circ\text{C}$  over than 5 hours.

Page 5, the paragraph at line 7:

The fourth one of the present invention is a method for preparation of a

photo-catalyst represented by  $\text{SrTi(IV)O}_a\text{Nb}_b\text{F}_c$  ~~wherein a, b and c are same as to the first one of the present invention~~ by baking titanium di-ammonium fluoride halide containing at least F represented by  $\text{TiF}_x\text{X}_{6-x}$  and/or  $(\text{HH}_4)_2\text{TiF}_d\text{X}_{6-d}$  ~~(wherein x and d are integer of 1-6)~~ and at least one selected from the group consisting of SrO, SrOH and SrX so as to form a starting material or  $\text{SrTiF}_6$ , then said starting material or  $\text{SrTiF}_6$  is nitrogenated by thermal synthesis in ammonia atmosphere containing from 0.02% to 10.00% of oxygen, air or water to ammonia by reduced mass to oxygen atom at the maximum temperature from  $350^\circ\text{C}$  to  $700^\circ\text{C}$  over than 5 hours.

Page 7, the paragraph at line 23:

The present invention will be illustrated more in detail.

A. The photo-catalysts of the present invention can be obtained by satisfying the essential factors described in the claims.

As the compound having chemical composition of  $(\text{HH}_4)_2\text{TiF}_d\text{X}_{6-d}$ , ~~(wherein d is integer of 1-6)~~  $(\text{HH}_4)_2\text{TiF}_6$  and  $(\text{HH}_4)_2\text{TiF}_2\text{XCl}_4$  can be mentioned as the desirable one.

Page 8, the paragraph at line 14:

The X ray diffraction spectrum of the material after baking are shown in Fig.1. All diffraction peaks in Fig.1 are belonging to TiNF (refer to Paper: Angew. Chem. Int. Ed. Engle.27 (1988) No.7, ~~p929-930~~) and the generation of TiNF is

confirmed. UV-Visible ray absorption characteristic curve of said material (obtained by diffuse reflectance spectrum) is shown in Fig.2. From Fig.2, it become clear that said material absorbs visible light shorter than 600nm. From the result of elemental analysis, the ratio of Ti:O:N:F is 1:1.76:0.13:0.10 ( $\text{TiO}_{1.76}\text{N}_{0.13}\text{F}_{0.10}$ ).